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Volume IV El Paso, Texas, Jan., 1920 No. 1

# SOUTHWESTERN MEDICINE

**Combining The New Mexico Medical Journal, The Arizona Medical Journal, The Bulletin of the El Paso County, Texas, Medical Society and the official organ of the Medical and Surgical Association of the Southwest.**

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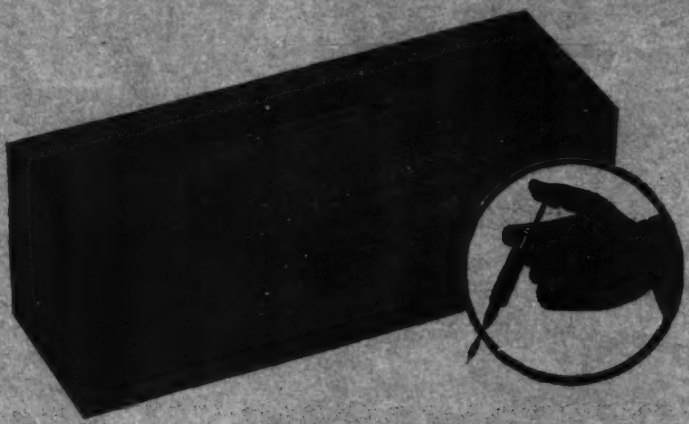

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# Southwestern Medicine

Volume IV El Paso, Texas, Jan., 1920. No. 1

## THE PARAFFIN WAX METHOD FOR THE TREATMENT OF BURNS

BY

CHAS. G. McMAHON, M. D., F. A. C. S.
(Miami, Arizona.)

No type of industrial injury is more productive of grief to all concerned than is the burn. To the patient it means a period of disability, painful and often prolonged. To the industrial surgeon it means a long drawn out series of dressings and a final result often leaving much to be desired, not only cosmetically, but functionally as well. To the employer it means a long period of loss of service and often a personal injury suit.

Until the last three years no improvement was made in burn treatments. Volumes of literature were written on fractures and articles frequently appeared in the leading surgical journals setting forth the methods of various plates, bands, screws and autogenous grafts, but there was no improvement in burn treatment meanwhile over the time-honored "carron oil."

The paraffin wax method is such a wonderful advance in the treatment of this type of injury that it is to be most heartily recommended to every industrial surgeon who treats even a small number of burns.

### *Other Methods*

A preliminary word regarding other methods may not be out of place. Doctor Sherman of the Carnegie Steel Company standardized the different methods of burn treatment being used by the members of his staff ten years ago. He found eighteen different methods in use and reduced them to four, viz.: picric acid, normal salt, boric acid ointment and the open method with dusting powder. The boric ointment and picric acid dressings were used on ambulatory cases and the open method on hospital cases. In seven years they treated 31,448 first and second degree burns and 4,683 third degree burns. Anyone familiar with the scientific manner in which their work is handled will admit that they gave a most thorough trial to the above methods. Sherman was one of the first to use the paraffin wax method in America and today is one

of its most enthusiastic advocates. They have used the method in over 3,000 cases and have adopted it as the standard treatment for burns of all kinds and degrees in all plants and hospitals of the Carnegie Steel Company.

The writer's personal experience with other methods cannot in any way be compared to that of Sherman and his associates. However, in seven years spent as chief surgeon for a corporation operating in addition to copper mines and a smelter, a large sulphuric acid plant, a nitric acid plant and a plant for concentrating acids, his experience with burns was fairly extensive. We experimented with various methods, finally settling on the routine use of a mildly antiseptic ointment prepared after a formula of Doctor Reclus of Paris. In July, 1917, we began to use paraffin wax and it was so markedly superior in every respect that I have not considered any other method of treatment since.

### *Historical*

Paraffin wax was first used by Barthe De Sandford, a French surgeon stationed in China, about seventeen years ago. After considerable experimenting he placed a paraffin wax product on the market under the trade name of Ambrine. Six years ago attempts were made to market this product in the United States, but it failed, partly on account of its being a patented product. It did not become popular in France, either. It was a failure financially and De Sandford was looked upon as a crank. When the late war gave him an opportunity to treat a number of cases he soon succeeded in demonstrating the superiority of his method. All who visited his hospital at Issy Les Molineaux were forced to admit that although sealing up an infected burn might be contrary to existing surgical principles, the patients were much more comfortable and could be redressed without pain. Furthermore, they recovered two or three times more rapidly than with former methods and with a minimum of scar tissue. Doctor Sherman was so impressed with what he saw of De Sandford's results in the summer of 1916 that he promptly introduced the treatment at the Carnegie Steel Company upon his return from France in December of that year. He perfected an atomizer for spraying on the wax, a method much superior to the brush used in France, and improved the technique of the treatment in various other ways. Doctor Sherman also deserves a great deal of credit for his pioneer work in bringing this treatment to the notice of the industrial surgeons of the United States.

### *Principles of Treatment*

All burns are thoroughly dried, preferably by an electric hot air drier, and a thin coating of the melted paraffin wax is applied to the burned area and about half an inch of the surrounding uninjured skin.

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The ideal way to apply this is by an atomizer. The French apply the the wax directly to the burned area with a brush, but this is slower and more painful to the patient. A layer of very thin cotton is then applied over the paraffin film and painted over with a thin varnish brush dipped in the melted wax. The first layer put on with the atomizer makes a film which protects the burn while the cotton is being varnished with wax and the combined effect is an air tight casing. The whole is then covered with a layer of absorbent cotton and bandaged. All burns are redressed every twenty-four hours and it is here that one of the most striking advantages of the wax method becomes evident. The old type of gauze dressing was adherent and came away with much pain to the patient and with many bleeding areas showing where the efforts of epithelization had been destroyed. The wax comes off painlessly and with no destruction of the new formed epithelium whatever. Briefly, the wax accomplishes the following:

1. Relieves pain by excluding air. (This fact regarding burns has long been known, but never utilized.)
2. It maintains a constant temperature.
3. Allows natural repair under most favorable physiologic conditions.
4. Serves as a scaffold for the new forming epithelium and protects it.
5. It minimizes the formation of scar tissue by the fact that the collection of underlying secretions render the dressing non-adhesive and the new growth of epithelium is not destroyed at each new dressing. This is in accordance with Murphy's well known illustration that a skin wound torn open at the end of every twenty-four hours would heal slowly and with a maximum amount of scar tissue.

*Preparations*

Any neutral wax mixture sufficiently elastic to avoid cracking will give good results. Numerous preparations are on the market now, including the original Ambrine. During the treatment of a severe burn it may be of advantage to add some drug, such as rescorcin or oil of eucalyptus, to the wax, and several laboratories now furnish wax with this addition. Some of the best known preparations beside Ambrine are Redintol, Cerelene, Parrasene, Stanolind, etc.

During the war Ambrine could not be obtained in America. The writer in 1917 began the use of Cerelene. It has proven so eminently satisfactory in every respect that he has continued to use it, varying it at times with the same preparation to which oil of eucalyptus has been added.

The properly prepared wax is solid when cold and has about the same gross physical appearance as beeswax. It has a very low melting

point and when heated to about 140 or 150 degrees it becomes as thin as water. Heating for a few minutes to 250 or 260 degrees renders it aseptic. Some doctors are inclined to make up formulae of their own, but the writer advises all who contemplate trying this treatment to use one of the products put out by some standard pharmaceutical house or laboratory. The initial cost may be greater, but the greater certainty of results will repay the added expense.

*Equipment.*

The following articles, while not absolutely essential, are of great value to the paraffin wax treatment. In a hospital where several burns are under treatment at once the time saved by their use makes them indispensable:

1. Some type of electric hot air dryer.

2. A double-jacketed atomizer for spraying on the wax—the water jacket will keep the wax fluid for some time.

3. A pump, electrically driven, to operate the atomizer. This can also be done by a hand bulb, but for large burns this method is very tiresome.

4. Some thin varnish brushes—preferably having the bristles set in hard rubber to avoid the "shedding" incident to repeated boiling.

5. Some very thin sheet wadding or some of the special type of "burn cotton" put out by the surgical dressing houses.

These articles so facilitate the application of the wax that they will prove a most excellent investment.

*Redressing*

All burns should be redressed every twenty-four hours. The wax shell is easily removed with forceps, either by lifting the edge or by making a cut through it with scissors and then peeling it off. It comes off easily and painlessly owing to the secretions collected beneath it. The wound is then cleansed gently with a mild antiseptic (normal saline or boric), using cotton pledgets, or preferably spraying the solution on with an atomizer. The sound skin around the burned area is cleaned by commercial ether and the whole then thoroughly dried by the electric dryer and the wax reapplied just as at the first dressing.

*Practical Points*

1. Never scrub burned tissue with an antiseptic at the first dressing. Nothing is to be gained by further insulting the traumatized area. Dry and apply the wax at once.

2. Avoid strong antiseptics in redressing. They are of no special

value and destroy the regenerating epithelium. Normal saline or boric acid will accomplish just as much with less damage.

3. Never apply absorbent cotton or gauze directly to the wound. Always apply a film of wax first and then the cotton.

4. The burned areas are often covered with a slough of purulent material of very offensive odor when the dressing is removed. This should cause no alarm. When the slough is completed, granulations rapidly form and epithelization takes place.

5. A patient cannot be burned when an atomizer is used to apply the wax. With a brush the wax should not be directly applied to the wound at a temperature higher than 150 degrees.

### *Pathology and Bacteriology*

The outer surface of a fresh burn is necessarily sterile, as a degree of heat sufficient to destroy skin will kill bacteria. After a few hours germs resident in the deeper layers of the skin invade the wound and all burns become mildly infected as soon as the process of sloughing begins. In spite of this mild infection islands of epithelium rapidly appear in first and second degree burns under the protection of the wax and healing rapidly takes place, both from the outer margins of the wound and from the epithelial islands. In burns of the third and fourth degrees healing takes place from the edges only, but is much more rapid than by any other method. Doctor Sherman ascribes this to the fact that a paraffin film forms the most favorable medium for the protection of epithelial cells. This is illustrated by the success of blood transfusion methods in which a coating of paraffin is used for protection of the cellular elements of the blood. Another factor that hastens repair and minimizes scar tissue is the fact that the dressings are absolutely non-adherent and no damage is done to the new growing epithelium in dressing. This also is a great factor in preventing scar tissue formation.

In the early stages of a burn the bacterial count (Carrel method) is high, averaging about 90 to the field. Later it falls lower, but the granulating area is never bacteriologically sterile. In severe burns there is a tendency at times for the granulations to become sluggish and repair to become slow. This can be remedied by sterilizing the granulations by the Carrel-Dakin method. When the granulations become approximately sterile the wax may be reapplied and repair will proceed rapidly.

### *Granulations*

The type of granulations in burns treated by the wax method are characteristic. They often are abundant and elevated and they do not bleed when the dressing is removed. Doctor Sherman has assured the writer that it is a mistake to cut them down or use any type of caustic

on them. The new forming epithelium crowds them down and the result is a scar remarkably soft and pliable and often resembling normal skin. Another method of stimulating healing in granulations that have become sluggish is to add resorcin or oil of eucalyptus to the wax. This usually hastens repair.

*Infected and Sterile Burns*

A distinction must be made between clinically infected and bacteriologically infected burns. The low grade infection normally present in a sloughing burn does not interfere with repair and does not contraindicate the use of paraffin wax. If, however, a burn should show clinical evidence of infection with oedema, redness, lymphangitis and free pus, and the pulse and temperature show elevation, the wax should be discontinued at once and Carrel-Dakin dressings used until infection has subsided, then the wax can be resumed. It may also be of value in third and fourth degree burns with unusually large areas of complete tissue destruction to sterilize with Carrel-Dakin solution as soon as sloughing has completed and then skin graft. The Carrel-Dakin technique may be continued after the skin grafting also with much advantage. Sherman reports better results o skin grafts where this method is used than by any other method he has tried. The writer has tried this method in a small series of cases with excellent results.

*Case Reports*

The writer first saw paraffin wax used in Doctor Sherman's service at West Penn and Saint Francis Hospitals, Pittsburgh, in June, 1917. He began the use of it himself in July, 1917. The following case reports are a fair sample of many of similar type.

1. G. N. S. Age 33. Severe second degree burns of face, neck and ears, March 4, 1918. Face badly swollen and disfigured. Discharged from hospital March 25, 1918, with healing complete and entire absence of scar tissue. No trace of former injury at the present time.

2. P. B. Age 28. Admitted July 25, 1918. Severe third degree burns of left ankle and lumbar region. Second degree burns of entire back, arms and forearms. Discharged October 5, 1918. Burns entirely healed in 74 days. No contractures around any joint and all scars soft and pliable.

3. R. R. Age 37. Admitted May 4, 1918. Second and third degree burns of face and neck, back and shoulders. Discharged from hospital June 1, 1918. Healing complete in 27 days. Has no scars on face or neck.

4. S. V. Age 34. Admitted February 2, 1919. Severe second and third degree burns of back, both arms, face, neck, thighs and legs. This was one of the severest burns the writer ever saw. Was fairly free

from pain after the first 24 hours and was discharged entirely healed in 134 days. I firmly believe that this case would have proven fatal with any other form of treatment.

*Conclusions*

The paraffin wax method shows the following advantages over all other treatments:

1. Burns heal more rapidly.
2. Pain reduced to a minimum.
3. Contracting scar tissue is minimized.
4. Constitutional symptoms subside rapidly.
5. Many patients recover who would die under any other treatment.

Doctor Sherman sums the method up very accurately as follows: "The relief of pain alone justifies its adoption. Anaesthetics and sedatives are rarely necessary. The rapidity of repair, relief of pain, absence of contractile cicatrices and deformity, absence of local and constitutional symptoms is so remarkable as to be difficult to believe. It is to be expected that this method will receive universal recognition and be made the method of choice in the treatment of burns until a superior method is discovered."

The writer wishes in closing to express his gratitude to Doctor Sherman for the privilege of exhibiting the splendid slides used to illustrate this paper. He also acknowledges much valuable information used in the preparation of this paper and in his own use of the wax treatment which was gleaned from Doctor Sherman's own article on the same subject in "Surgery, Gynecology and Obstetrics" for April, 1918, and from personal observations made on several visits to Sherman's clinics at West Penn and St. Francis Hospitals, Pittsburgh.

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## ROENTGEN AND RADIUM ACTIONS AND REACTIONS

BY

ALBERT SOILAND and CHAS. W. STEWART

(Los Angeles, California.)

(Read by Dr. Stewart before the Twenty-eighth Annual Session of the Arizona State Medical Association, Globe, Arizona, June 3, 1919.)

Roentgen and radium actions can be studied by two different methods; the effect of the radiation on the sensitive photographic emulsion and the more important action and reaction upon living tissues. With radium accurate observations are quite readily made, owing largely to the fact that a given body of radium element emits a constant and stable radio active force. On the contrary, the energy of radiation from an ordinary X-Ray unit is never absolutely constant and varies in direct proportion to the electro motive force, the line of resistance, the vacuum

of the tube, electro static factors, etc. If we could collect a given amount of radium that would measure up in actinicity to a corresponding amount of X radiation (granting that the wave length and frequency of the two were similar), the chemical and physiological action of both would be alike. Inasmuch as the total amount of radium obtainable is small proportionately in its energy to that obtained from an energized X-Ray tube, it is necessary to make our experiments with ordinary radium containers and ordinary accepted roentgen ray apparatus and proportion our results.

In radium we have a very large number of rays that have an exceedingly limited penetration and a comparatively small number of rays that have a very great penetration. On the contrary, from an X-Ray tube, energized as in ordinary treatment work, we have rays that are exactly opposite, that is, by far the greatest number of them have a very deep penetration and the number of feebly penetrating rays are few.

The question of how great a distance will the radium and X-Rays act upon photographic plates at once arises. By experiment it is easily demonstrated, that in close contact with the plate, radium has a very pronounced effect upon the photographic emulsion, but this effect very rapidly diminishes a few inches away.

At 8 inches distance 150 m. g. of radium has but a very slight effect upon the plate in one hour, and at 40 inches distance no perceptible blackening of the emulsion is obtained. On the other hand an energised X-Ray tube operating on a 6-inch Gap and 50 m. a. in 10 seconds produced quite a satisfactory plate of the bones of the hand at a distance of 40 feet. It is our contention that, in living tissues, rays from either the X-Ray tube or radium have a physiological effect on the tissues only when they are absorbed and transformed into radiant energy at their point of absorption, and, when so absorbed, their effects are identical. We are concerned therefore only with those rays that are arrested in the parts exposed to their action.

If this is granted it will be a simple matter to understand that radium with its preponderance of short distance rays should be the favorite method in strictly limited superficial conditions and that the more extensive and deeply located conditions should invite the X-Ray.

Radium is usually applied in direct contact with the affected part, which allows the energy of radiation to act directly from its source without an appreciable intervening air space. In an X-Ray tube it is impossible to get closer than about four inches to the source of activity owing to the physical form of the glass tube. In this four-inch distance the rays of low penetration, i. e., those of long wave length are arrested, and the resistance of the glass wall of the tube cuts out a further number of these rays. This will serve to explain at once why the radium

reaction is more superficial, because it can readily be seen that no such rays in any appreciable quantity are emitted from an X-Ray tube.

The writers have demonstrated to their own satisfaction that the radio-active waves affect living cellular structures in proportion to their wave length and penetration. In other words, the longer the wave the slower is its frequency and the less its penetration. Hence with long waves we get a superficial action and we get it quickly, and it disappears rapidly. The shorter the wave becomes the greater is its frequency and deeper its penetration. As we progress up the scale we reach the short waves of great frequency and deep penetration and the reaction appears on the surface slowly and lasts much longer. Finally we get into the very frequent waves of exceedingly short length, which can so profoundly affect tissue metabolism as to bring on a delayed reaction which may result in tissue necrosis of greater or less extent.

It can be stated roughly that radium occupies the first half of the scale with its long waves of low penetration and superficial action, while the Roentgen rays occupy the second half with its correspondingly greater number of short and deeper acting rays. If one will apply these two agents in their field of usefulness according to their wave length of energy the clinical results will prove very satisfactory.

In practice one can with a certain degree of correctness foretell both the time of appearance and duration of reaction, knowing the wave length employed. This, of course, will depend upon the time element, number of wave units absorbed, filter employed, etc. In other words, the key to the situation lies in selecting that particular bundle of waves which will cause a certain stimulation, inhibition or destruction, according to which of these reactive sequelae are desired. Then with some knowledge of the pathology in a given case the results are not difficult to foretell.

In general it can be said that reactions of all sorts from radium are more easily obtained and controlled than from the X-Ray, but on the other hand the X-Ray has a much wider range of activity, but is not so easily controlled. The question naturally arises, in what cases is radium to be used and in what cases shall we use the X-Ray? This can be answered in a general way by saying that in cavity work radium is the more efficient, because it can be brought into direct contact with the diseased tissue, whereas the roentgen ray must pass through more or less healthy tissue to reach the cavity. Radium can, therefore, be inserted into the rectum, vagina, nose, throat and other cavities, and with the Roentgen ray we are obliged to apply our ray from without. In many such cases it is advisable to combine the two, applying the radium from within and from the outside, cross-firing with the Roentgen ray. This is done because most of the action of the radium is in the first two inches and we rely upon the hard penetrating Roentgen rays to reach the more inaccessible deep parts.

Bearing in mind the character of rays emitted by radium or thrown out from the X-Ray tube, and further, that when arrested in the tissues and absorbed by the cells the physiological effect of the two rays are identical, the therapeutic indications are determined by the mechanical factors of location and accessibility and not by any peculiarity of the radio active agents used.

The action of a radio active agent is most graphically demonstrated by the cellular reactions of the tissues, particularly the skin. If unfiltered radium is applied to the human skin there soon follows a violent reaction. With a sufficient amount an exposure of 10 minutes will produce an intense redness similar to a solar erythema. Thirty minutes will produce a vesiculation and a second degree burn. One hour will produce tissue necrosis or a so-called third degree burn. These reactions are identical with those produced by X-Rays, which, however, is capable of inducing them in a much shorter time and from a much greater distance.

In some human tissues there appears to be a well marked idiosyncrasy to all radiant energy, the cause for which has not yet been satisfactorily explained by anyone. This is manifested, in some instances, by a most violent reaction far in excess of what is expected from similar dosages in the usual course of events. Then again one meets with a so-called delayed reaction where, months after a supposedly safe and normal course of exposures, a necrotic reaction appears, which refuses to heal and resists all known treatment. Such a reaction has been noted in the use of radium, but is more common from the X-Ray. The writers know of no lucid explanation for this, but trust that when the explanation is found it will remove the last barrier to an unlimited use of these valuable agents in the treatment of many stubborn lesions that so far have failed to yield to medical science.

527 West Seventh Street, Los Angeles, Cal.

*Discussion by W. W. Wilkinson of Phoenix*

We are all very grateful to Dr. Stewart for his forceful and lucid presentation of this subject. The fact that the X-Rays and the radium rays are the same was well emphasized; and that in the use of either modality it is the gamma rays that penetrate the tissues. The Coolidge tube furnishes much larger quantity of more deeply penetrating rays, thus doing in minutes what radium takes hours to do. Radium has the decided advantage only in treatments of growths within the various orifices of the body. Also radium-coated needles are being introduced into tumors with good results.

The fact that 50 per cent of the unfiltered rays are arrested in the skin is sufficient reason for the almost universal success in the treatment of chronic skin lesions, especially when we bear in mind the fact stated

by Dr. Stewart that we can stimulate, depress or destroy the area treated by choosing the proper dosage. We have had good results in all cases of early epithelioma that we have treated in the past 12 months. Some of our early failures were due to not applying a sufficiently massive dose. Four cases of pruritus ani, one of several years standing, responded promptly to Roentgen exposures, as have the cases of eczema, lupus, lupus erythematosis, keloids, warts, small nevi in young children and one case of hypertricosis treated with filtered rays.

All treatments of subcutaneous conditions that do not destroy the skin should be considered deep X-Ray therapy. The lymphatic and ductless glands are very susceptible to the X-Ray. The ovum and spermatozoa are the most susceptible cells in the body. I have induced X-Ray menopause in a dozen cases, usually in three months' treatment. Not only are the menopause disturbances greatly reduced and abbreviated, but women in poor health from 30 to 40, especially if tubercular, who should not become mothers, are greatly benefitted by the permanent stopping of ovulation. Tubercular glands as well as T. B. skin and bone lesions yield promptly to X-Ray treatment. A case of Hodgkin's disease with a bunch of glands at angle of right jaw as large as a big orange disappeared entirely after two treatments. Also three treatments of a hyperactive thyroid brought the pulse down 30 beats per minute. Deep seated malignancy should be thoroughly rayed after operation and, if possible, before operation.

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## PROPAGANDA FOR REFORM

Formaldehyde Tablets.—During the recent influenza epidemic a variety of tablets or lozenges were advertised which were claimed to owe their asserted value to the fact that they contained formaldehyde and liberated it on contact with the saliva. Tablets containing hexamethylenamine or other formaldehyde compounds can neither cure respiratory infection, nor even confer a protection against such infection. To be effective, formaldehyde would need to be supplied to the entire respiratory tract continuously for some time, or else in concentrations that would be distinctly irritant and damaging to the tissues. Some years ago, the Council reported on the inefficiency of Formamint, which was said to be an efficient germicide by virtue of the liberation of formaldehyde on contact with the saliva. To call attention to the inefficiency of this form of medication, the Council on Pharmacy and Chemistry now reports that the following were found inadmissible to New and Nonofficial Remedies: Hex-Iodin (Daggett and Miller Company, Inc.), Formotol Tablets (E. L. Patch Company) and Cin-U-Form Lozenges (McKesson and Robbins) (Jour. A. M. A., Oct. 4, 1919, p. 1077.

# ORAL INFECTION AND SYSTEMIC DISEASE

BY

DR. E. J. CUMMINS

(Read before the El Paso County Medical Society, October 20, 1919.)

I consider it a great privilege and honor in having this opportunity of presenting the first paper before a joint meeting of the dentists and doctors of El Paso. This meeting marks a new era in the practice of medicine in our city.

The medical profession has become fully aware of the part the teeth may take in causing systemic disease. Dentists are equally alive to this fact. General disease is also capable of causing local disease of the teeth.

The dentist of today is, or should be, a specialist in his work, and it is necessary that he should have the same underlying medical education as any other specialist. The ancients recognized the fact that systemic disease was often due to focal infection.

In an exhaustive study of some 6,000 sets of teeth by Dr. Black of Chicago 75 per cent of them were found to have destruction about their roots. The importance of good dentistry is shown by his statistics. Only 9 per cent of the alveolar abscesses followed good root fillings while 63 per cent followed poor root fillings.

General disease may produce local disease of the teeth, gums, tonsils and other oral structures. We are all familiar with the fact that scarlet fever, measles, syphilis, typhoid fever, scurvy and the blood diseases may produce disease of the teeth and other structures within the oral cavity.

Bacteriological studies have proved that the same organism is frequently found in the primary focus and in the secondary lesions. Numerous organisms are found as the causative agents of the focal infections about the teeth. The ones which concern us most are the streptococcus hemlytics, strephto-coccus viridans, staphyococcus aureus and staphy lococcus albus.

The infective process may be entirely localized and produce no symptoms whatever or the toxins may be absorbed producing a toxemia, or there may be a dissemination of the organisms through the lymph or blood streams with secondary lesions resulting.

The most common lesions of the teeth and their associated structures are chronic alveolar abscess, acute abscess, dental granulomata or blind abscess, cyst formations and pyorrhoea alveolaris. The process may spread to neighboring structures causing necrosis of the palatal bones, maxillary sinusitus, inflammation of the eye, nose, pharynx, tonsils and lymphatic glands of the neck; the submental and submaxillary glands being most commonly involved. One should not too hastily accuse the tonsils of being the cause of cervical adentis. Prof. Cantani

of Naples has reported 50 clinical cases of tubercular infections of these lymph glands through the teeth.

The general condition may be due to an absorption of toxins and manifested by malaise, fatigue, anaemia, gastro-intestinal disturbance, or may be due to a general infection.

Infectious arthritis, acute and chronic, acute rheumatic infections in children, including endocarditis and nephritis, may result from a hematogenous infection. Gall bladder disease and appendicitis are often the seat of secondary infections. Numerous cases of osteomyelitis following alveolar abscesses are on record.

I do not wish to give the impression that these conditions are always due to infections about the mouth, but merely desire to point out the fact that they may be due to some focal infection and that the teeth are a frequent seat of the primary focus. But even though they may not be the actual seat of the primary focus, the absorption of toxins from diseased teeth may lower the general condition to such an extent that disease is contracted. This point must be remembered in the treatment of the secondary condition by the use of vaccines. The treatment, of course, consists in removing the primary focus and assisting nature to overcome the secondary lesions by medical and surgical means.

The all-important thing is to arrive at the correct diagnosis, and this means the hearty co-operation of those representing the different specialties. There is too great a tendency, in my opinion, these days to jump at conclusions. It used to be the fashion for everyone to have his appendix removed. Today every little pain and ache is ascribed to the absorption of toxins from some focal infection, and generally the patient submits to having his tonsils removed, but often continues to have his aches and pains. The remedy for this condition seems to be in the "group practice of medicine," with an earnest and honest co-operation of those making up the group.

*References*—1. Thomas, K. H., Relation of Teeth and Jaws to Medicine; 2. Black, Arthur D., Medical Clinics of Chicago.

# Southwestern Medicine

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All articles must be made exclusive to this journal. Reports of Society Meetings are asked for from the Secretaries.
Items of interest, with the name of the sender will be acceptable.
Books for review should be sent to The Editor.
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## EDITORIALS

### 1920.

In beginning its New Year, Soutwestern Medicine takes much pleasure in announcing to the profession that Dr. Gallagher will continue his labors as Associate Editor. His interest and enthusiasm have been strong factors in keeping alive a real spirit of a Medical Periodical, and its high level of excellence and literary quality have been due chiefly to his industry and untiring labors.

### FOCAL INFECTIONS.

We are reminded very strongly by one of the papers in this issue that the opinion of the profession is becoming well crystallized on this important subject and that the extravagant statements made in the first days of its heralding are not now quite so frequently published. Our attitude is more sane and conservative and we do not so confidently

predict results that we were wont to promise our patients by removal of one focus. Rather do we proceed more cautiously, and tentatively advise the removal of this or that supposedly offending tissue or organ. We appreciate more keenly, too, the role of double infections and realize that often times the removal of one focus is but the first step of the process in attempting to cure extensive pathological conditions which have no etiological relationship to that focus, though aided by the systemic disseminations of the toxine it produces.

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## THE FEE AND THE PATIENT.

For some time there has been a growing discontent among the laity concerning the cost of the arsenical treatment in syphilis. No doubt, the fee charged was entirely proper in the early days of the application of Erlish's discovery, when the idea of the theraia sterilisans magna held out the hope of cure by the injection of a single dose; but the increasing conviction of both profession and patient that many injections of the drug are required and that in the majority of cases combined treatment is necessary, has forced upon us another viewpoint from which the question must be regarded in deciding the proper attitude of the physician towards his responsibilities in this matter. Is he going to continue an excessive charge, all that the traffic will bear, for single doses of the drug and have the patient receive insufficient treatment, because at such a rate he will not or cannot pay for the large number of doses which we know will be required if we hope to effect a cure? Or is he going to adopt the principle that the first and main consideration is to see that the disease is thoroughly treated and the patient cured, and to accomplish this make the fee sufficiently reasonable to permit a standard minimum number of doses to be taken.

It is a recognized fact that the best hopes of a real cure are offered if treatment is begun and continued intensively in the first stages of the disease. It is exceedingly important to maintain the arsenic at a high level of concentration in the blood during this period, which means frequent injections (at intervals of three days to a week) during six or eight weeks, mercury also being given introvenously, intermuscularly or by inunctions if preferred.

Few patients assuredly will feel that they can afford the above course at the present fees, and most of them accordingly will take insufficient treatment or drift on to the free clinics. Certainly there should be a charge in each case proportionate to the financial circumstances of the patient, but in every instance it should be guaged so that the patient is made to feel that it is reasonable and to inspire a state of mind that begets confidence and a willingness to take the necessary number of treatments. For some, this would possibly better be done by fixing a definite

sum for a standard course of treatment; for others a proportionate fee for each interjection would be preferable.

The responsibility of the physician toward these patients is very grave, as their disease concerns the future as well as the present generation. It is not our part to make heavier the burden of their penalty. We are not concerned with their transgression of the moral law, but simply with the effects of their disease, and we must extend a helping hand instead of making their regeneration more difficult. We feel that this is good policy from a business standpoint, in addition to its being in accord with the best traditions of our ancient and honorable guild; we can serve our patients' interests and our own.

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## BOOK REVIEWS

**An Outline of Genito-Urinary Surgery.** By George Gilbert Smith, M. D., F. A. C. S., Genito-Urinary Surgeon to Out-patients, Massachusetts General Hospital. 12mo. of 301 pages, with 71 illustrations. Published by W. R. Saunders Company, 1919, Philadelphia and London. Cloth $2.75 net.

This is a small book of 300 pages which is very properly called an "outline" of genito-urinary surgery, since in this space little more than an outline could be attempted. However, it is largely written in text form and gives in concise language the information which the author considers that every physician in general practice should know. After a careful reading we believe it answers this purpose better than any other small work with which we are acquainted. Every sentence conveys information and one who follows its directions will not be led astray, neither will he be led into attempting the difficult genito-urinary operations that should belong to the skilled specialist. —E. B. R.

**A Text-book of the Principles of Nursing.** By Charlotte A. Brown, R. N., Superintendent of Nurses in the New England Hospital for Women and Children. Published by Lea & Febigeri, Philadelphia and New York. Price $1.50.

This is a text-book for nurses, covering subjects of general nursing, some directions for simple analyses and first aid. It is commendable for its suggestions regarding the ethics of the nursing profession. Disregarding some questions of rhetoric and minor points it contains much information of value to the average nurse. —E. B. R.